

DISCOURSE

INTRODUCTORY

TO A

Course of Lectures

ON THE

SCIENCE OF NATURE;

WITH

ORIGINAL MUSIC,

COMPOSED FOR, AND SUNG ON, THE OCCASION.

DELIVERED IN THE HALL OF THE UNIVERSITY
OF PENNSYLVANIA, NOV. 8, 1800.

BY CHARLES W. PEALE.

" Still let me various NATURE scan:
The world's my HOME ; my Brother, MAN :
And God is every where."

PETRIE

—Philadelphia:—

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1800.

DISCOVER

INTRODUCTION

Course of Lectures

Jos: Banks

WITH

ORIGINAL MUSIC

BY THE AUTHOR OF THE COURSE

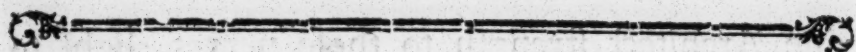
OF LECTURES IN THE HALL OF THE UNIVERSITY
OF CAMBRIDGE, NOV. 1800.

BY CHARLES F. PEARCE

SECOND EDITION, REVISED AND CORRECTED
BY THE AUTHOR OF THE COURSE
OF LECTURES IN THE HALL OF THE UNIVERSITY
OF CAMBRIDGE, NOV. 1800.

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DISCOURSE

INTRODUCTORY

TO A

Course of Lectures

ON THE

SCIENCE OF NATURE.

WITH an ardent desire of rendering myself not unconspicuously useful to my country, I may undertake works, perhaps, of greater magnitude than may be thought perfectly prudent for an individual of my years;—means of support;—and mental powers.

But when so much pleasure is felt in the contemplation of the wonderful works of an All-wise CREATOR!—Can I leave any difficulty untried to display those beauties which, in every step we take, unfold scenes calculated to teach adoration to that finger which directs a universe?—Grant thou divine

vine Architect strength to those nerves, light to this mind, to explore the true line of connection and dependence of all thy creatures; and give powers of language, to display, to my fellow man, thy goodness to every being!

In my introductory Lecture, delivered last year, I endeavoured to shew how important is the knowledge of Natural Science to every class of citizens.

I addressed the Farmer; the Merchant, and the Mechanic; I shewed that the Swedish government was aided by Linnæus's knowledge of Natural Science, and that even Poets, and all those professing the fine arts, must from thence derive their models of elegance. And again I repeat, "that the comfort, happiness, and support of all ranks, depend on their knowledge of nature:" otherwise how could they be fed, clothed, and even sheltered from the inclemency of the seasons?

In short, it is a source from which man is taught to know himself; whose lessons teach him to bear with patience, or to alleviate, the various sufferings to which human beings are liable. Can he properly know himself without having some knowledge of the numerous animals, and such substances as aid, comfort, and even support him?—with this knowledge

ledge he is enabled to do justice to the feelings of others, he will bend to that sweet sympathy which cherishes the love of harmony; that peace and tranquillity so powerfully sweetening human life! Need it be said that all the other branches of the Science claim his attention? minds accustomed to investigate the causes of the various Phenomena of Nature, will be more or less acquainted with the elements, and from the known properties of some, they will enjoy speculative ideas of the more abstruse, or unaccountable appearances of others.

The local organized bodies, as well as those that grow without organs, vegetable and mineral productions, will engage the attention of every person, in a greater or less degree, and are of much consequence in a physical, moral, or commercial view through life.

Many enlightened authors have given their sentiments in elegant language on the importance of the study of Nature and all the judicious part of mankind accord in their wishes to encourage so fruitful a science. It is only the most inconsiderate mind which could possibly turn its face against so pleasing, and useful an employment as the study of Nature.—I must here pause.—This is a heavy charge,—I have said there is a want of taste for
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this my favourite science,—on reflection, I really do not believe, that a being so out of Nature can be found.—I am sure it would be more monstrous than any *lusus naturæ* belonging to the Museum, (and I have several which I have never wished to exhibit.)—No, it cannot be,—there is not such a character to be found,—it is only a difference of sentiment in the manner of obtaining this knowledge of Nature;—It is the means of encouragement to this science, and not against it, that one dissenting vote would be found amongst millions of men.—

Therefore, in future, I shall set it down as an established principle, that all men are agreed to join in the admiration, promotion, and cultivation of the knowledge of Nature.

THE BEAUTIES OF CREATION.

MARK the beauties of Creation,

Mark the harmony that reigns!

Each, supported in its station,

Age to age unchang'd remains.

Water, earth, and air surrounding,

Teem with life in every mode;

Foodful plants and herbs abounding,

Fossils in their dark abode.

Flitting

Flitting thro' the yielding heaven,
Hark! the warblers of the grove!
Deck'd in plumage richly given,
All their souls attun'd to love.

Food and raiment, use and pleasure,
Each, attend the bestial train;
Seas pour forth their finny treasure;
Earth its fruits and plenteous grain.

Flutt'ring gay from flower to flower,
See the vivid insect stray—
Changeful form! within the hour,
Winged, bursting into day.

These, ten thousand times repeated
Fill Creation's boundless plan;
Mark the finger that created
Each, in proper place, as man.

Let us then, the whole surveying,
Guide the moral to our heart—
Let us, Nature's voice obeying,
Live in blifs and blifs impart.

May reason at last, among all nations, obtain its
empire; that they may feel their relative situations
to other beings; and thus knowing their reciprocal
dependence, learn to cultivate the arts of peace,—
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and may war be no more named, but with horror! How absurdly they reason who say, that mankind would multiply too fast, without wars.—Is there not an abundance of employment for all the human species?—Is there not yet an immensity of land even in Europe uncultivated?—do not other quarters of the globe furnish their millions, yet unexplored?—will not disease make ravages sufficient among us mortals?—must we still go on to murder one another, because we do not speak the same language? or can nations find no other way to settle their differences, but by the sword? will any substantial, or permanent profit arise to those nations which promote wars?—have they calculated the expence of armaments, can they fully weigh the profits and losses, and strike the balance? If one hundredth part of the sums lavished on war, were applied to the encouragement of science, would not the condition of millions of inhabitants be ameliorated, and the world then be a Paradise compared to its present situation! and as to individual profit, what kind of being can he be, who could enjoy riches, the price of his murdered fellow creatures?—Were we cannibals we might have some excuse—but alas! we have none.

Example has sometimes been able to effect more, than the strongest laws of despotism. If I give a
very

very strong contrast, the blush may rise on the cheek of some, not yet lost to all sense of feeling.

To this end, let us take a cursory survey of the manners of other animals;—those, which we say, are inferior to our species.—Do they levy war against their kind?—Does the Lyon destroy the Lyon?—does the Hawk prey upon Hawk?—were Sharks ever known to depredate on their own species?—No! so foul an infamy is found alone on man!—Our traders to the Faulkland and other Isles on the coast of Patagonia and Chili, tell us, that Sea-Lyons, Sea-Wolves, and other such animals, are often found so numerous, as to cover the shores; so thickly are they inhabited, that a man with a short bludgeon, may kill hundreds of them before his breakfast!—yet among this immense number of creatures, a perfect harmony prevails!—Suppose we descend, and view the smaller animals,—here, myriads of insects, present themselves to our view. They are far more numerous than any other class of animals, and yet behold among them also, a perfect harmony.

This is a serious comparative view of animated creation, permit me to ask, if it yields much credit, or honour to our boasted reason?—most assuredly not. And if we study the manners of such animals

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in general, we shall find amongst them, most excellent models of friendship, constancy, parental care, and every other social virtue.

Although we generally find so much harmony among the inferior animals, yet they sometimes, have their battles, but it rarely happens, where their wants are bountifully supplied.

That one species of animals should prey upon another, is perfectly consistent with the order of things, and it is wisely provided, that the number of each kind should correspond, so as to keep up that equilibrium of supply, which constantly prevails.

It would be digressing from the object of this address, were I to enlarge on the folly of wars, or note the proper means to avoid them. But I have thus pointedly spoken my disapprobation, because I do not hate mankind, and am fully impressed, that if they do not act wisely, the fault only arises from a want of education. The mind of man is ever active, it must be employed continually, and the greater number of inlets that can be opened for him to receive instruction, with rational amusements, the more effectually will he be drawn from vicious habits.

can

Can we find a more pleasing study, than by gaining a thorough acquaintance with the properties of the various substances, whether animate, or inanimate, that constantly are presented to our view?—

I am sure this polite audience will agree with me, that it would be a source of infinite pleasure, could we say, when we put our hand on this or that object (be it what it may,) such are its component parts; such its derivation; and such are its uses. Perhaps it is not possible for an individual to be so learned in the science of nature, as to possess a complete knowledge of all the objects of each branch; yet possessing the general principles of those systems which have been invented of late years, by several ingenious and learned men, (with a view to facilitate the study of natural history,) he may, with a little application, acquire the knowledge necessary to know any object, although he had never seen it before.

Such is the precision of character stamped by the Creator on all his works!—such the beautiful uniformity in an infinite variety of beings, that the more we see, and know of their marked characters, the more ardent will be our thirst for knowledge in this edifying and charming science,—the greater will

will be our astonishment and admiration of boundless Wisdom!—such contemplations raise us above ourselves!—our astonished souls are elevated as it were to converse with the great moving Power, who governs worlds!—we feel unspeakable pleasure, and soar above this earth in rapturous praise!

The exercise of our reasoning faculties in making ourselves acquainted with all the objects presented to our view, in each moment of our waking hours, opens a boundless field of contemplation!

Possessing such a turn of mind, we acquire an unceasing fund of entertainment, from which no situation whatever in life, could wholly deprive us. This may be called the food of reason, and ought to be inculcated on the minds of our children, as soon as they can lip a sentence.

We might begin with the most simple questions; pick up a straw, and question and instruct the child as to its growth; its grain and their uses; and as their little minds expand, teach them not only useful arts, but at the same time a little of every branch of natural history.

One caution only should be premised, which is, never to put abstruse questions to them, such as
cannot

cannot be comprehended by their experience, or reason; therefore familiar visible things; substances at hand, should be the medium through which we ought to convey our instructions. If education is essential for obtaining happiness,—have not our daughters an equal right with our sons to our instruction? and if we consider what kind of education is most useful, we will find generally that which benefits our sons, may equally be serviceable to our daughters; and it is, with real concern, I have noticed the neglect of female education in some of the states. Happily of late years, the citizens of Philadelphia, have turned their attention to the establishment of particular schools, for the instruction of young ladies,—this reflects much honour on the city, and may excite other cities to establish similar institutions.

The lively fancy of the youthful fair, would quickly catch a fondness for a science of such infinite variety.—What a charming topic for conversation would this afford in their social parties! And if we reflect how the various parts of natural science branch out into all the household and economical concerns, can we find any part of female education of greater import? To proceed a little further, we find that, for the most part, the
early

early education of children must naturally fall to the mother, hence how important, that she should be well informed in the history of Nature. What a delightful amusement it must be, to teach her sweet prattlers, as their minds expand, the various changes, from the creeping caterpillar to the dormant chrysalis, and afterward the gay flitting butterfly; and also the various metamorphosis other insects undergo;—to know their uses in the support of other animals,—that hence they may be led to abstain from cruelty, or wantonly tormenting them. Thus instilling and extending, as they advance in years, a sweet benevolence of temper toward their brethren.

What charming conversations will a knowledge of this Science afford between the father and his sons, at the age when they become agreeable and useful companions to each other.—How often in their morning or evening walks might the infirmities of age be beguiled, while recounting their observations, and explaining the vivifying scenes of Nature, and often by judicious remarks, the high toned passions of the youthful nerve, might be restrained until it gains maturity. Whereas from the natural restlessness of that age, unless diverted by some useful amusements, they are heedlessly
led

led into scenes of folly,—and to often, vices that embitter all their future days!

I have not yet spoken of this study in a religious point of view.—Were it necessary, I could give chapter and verse, from the Holy Writings, not only according with the subject of this address, but expressly recommending the study of Nature as an essential duty of man.—Our divines, I flatter myself, will aid me on this subject with more forceable language than I possess.—Into whose hands, with sentiments of regard for their office, I respectfully submit this fruitful theme, wishing them honor, comfort in their labours, energy in their discourses, to make men wiser and better.

Very few words are requisite to prove that the Science of Nature, when viewed in its full extent and true meaning, is one of the most important studies of man.—All men agree, that the study of morals is in the highest degree important. We shall therefore only add that the former is the foundation on which morality is built; in as much as the study of man forms a part of it; and the whole creation teems with the most striking examples which the Moralist can desire.

But

But enough is already said on the importance of the study of nature—and yet, what a variety of instances, are left unnoticed, which prove the beneficial effects such knowledge has on the conduct of men to render them pious and happy!

Yet not to engross more of your time by illustrating a subject so self-evident, let us proceed to point out the most easy method for obtaining this knowledge.

This will be by the aid of a MUSEUM.

Permit me, here, to give the derivation of the word, from Mr. Dobson's Encyclopædia. It is

“ A name which originally signified a part of the palace of Alexandria, which took up at least one fourth of the city. This quarter was called the Museum, on account of its being set apart for the Muses and the study of Sciences. Here were lodged and entertained the men of learning; who were divided into many companies or colleges, according to the sciences of which they were the professors; and to each of these houses or colleges was allotted a handsome revenue.

The foundation of this establishment is attributed to Ptolemy Philadelphus, who here placed
his

his Library. Hence the word Museum is now applied to any place set apart as a repository for things that have an immediate relation to the arts." And in other dictionaries, a Museum is called a repository of learned curiosities." It is worthy of remark, that the inscription over the door of the Museum at Alexandria, translates thus, *Medicinal-office of the Mind.*

It appears that almost every government in Europe have their Museums, and many have established large funds for their support. We will take a cursory view of some few, and conclude by shewing the uses I wish to be made of that which I have begun,—in a fond hope that it may likewise ultimately obtain a permanent establishment in Philadelphia.

But oh! my friends, what a pang! when I look on the fate of the founder of the first Museum presented to my mind!—The great, the good,—the learned and indefatigable Aldrovandus!—what was the end of his labours?—after having spent his whole life, and a vast fortune in prosecuting the most noble, as well as the most entertaining and useful, of all studies, died at the age of eighty. When, and how?—On the public charity, and in an Alms-house.

In the city of Bologna in Italy, Aldrovandus laid the foundation of a Museum which has been the admiration of all learned men who have visited that country.

An elegant anonymous author in his discription of it says, " You would believe the whole earth and seas had been stripped to furnish it. All nature laid before us at a view. The rocks had been searched for its gems, the bosom of the earth for its minerals. In what form has the diamond and ruby been found, that is not there seen?—What bed contains the changing opal, and the grass-green emerald that was not here before us?—To what rock adheres the skyish Sapphir, what hollowed globe contains the blushing amethyft that did not grace those shelves?"—The produce of the Indies.

I could go on, as it is a feast to read it, and not fear that a detail of the wonders of this magnificent repository would become tiresome, were that proper, but here we close this article in the words of an Amateur, who, as he wiped a tear from his eyes,—said with a sigh, " There rests the fate of natural history!"

DIRGE.

DIRGE.

WHAT alas! was Aldrovandus' fate!
Why heaves the swelling breast,
When sorrow tells the tale,
And drooping science mourns his genius fled;
All but his glory in the grave?—
He whose fortune was to science given,
On public bounty in an Alms-house died!

The British Museum was built on the labours of Sir Hans Sloane, who spent, in collecting it, £.50,000 sterling.

He left it to the public on condition that the British Parliament should pay to his executors £.20,000—On application of the Trustees appointed by Sir Hans, Parliament granted a lottery, the profits of which was £.100,000—After the payment to Sir Hans' executors, they bought Lord Oxford's manuscript Library for £.10,000, and Montague-house, a very magnificent building, for £.10,000 more, and then allotted £.30,000 to establish funds for supplying salaries to officers. Also monies to make repairs, and purchase glass cases

cases, &c. amounting to £.15,000. Twenty-six trustees were appointed and incorporated to govern it. This magnificent Museum can be seen only on certain days. Fifteen persons are permitted to view it in one company, and the time allowed is two hours. Those desirous of seeing it, must give their names, places of abode, and professions at the porter's lodge, in order to be entered in a book. In a few days, the respective tickets are made out, specifying the day and hour, when they may visit the Museum. If by any accident some of the parties should be prevented from going, it is proper to send back their tickets, as no other persons can be admitted with them.

The trouble to obtain a sight of the British Museum, (although it has been encreasing in valuable articles, and supported at very great expence for a series of years,) renders it of less value to the public, than a private collection belonging to Mr. Parkerson, called the Leverian Museum, Sir Ashton Levers was the founder of it; hence its name. This Museum contains an immense collection of birds, in fine preservation; of quadrupeds, amphibious, and other animals, a great variety; also many valuable articles of art; besides the dresses of the nations in the new discovered Islands by captain Cook and other navigators.

The

This superb collection may be seen at any convenient hour for half a dollar.

It is a fashionable lounge for the citizens of London, and is highly useful, instructive, and amusing.

In the city of Dresden there is a rich Museum, called the green-room. The articles are deposited in seven rooms and a closet, which are painted green; hence the name.

It was begun by the elector Augustus. In it are a prodigious number of works of art and nature. Vast sums of money have been lavished on this Museum. I will only mention the cost of one article, among many of high price.

This is a table of jasper cut in relievo of onyx, calcedony and other gems, representing a young prince on horse-back, preceded by the virtues, pointing out the way to glory; whilst the vices, with looks of rage and confusion, are flying before him. It is an ancient piece, and cost 80,000 dollars.

So very careful are they to preserve this Museum, that when the Swedes made an irruption into
their

their territories, they removed the articles into the district of Magdeburg, and there secured them in the castle.

The fee for seeing this Museum is six Gulden, about three dollars. The shoes of every person visiting it are carefully wiped at the entrance, in order to keep the place as free as possible from dirt or dust.

All the apartments are floored with marble of different colours, the produce of Saxony.*

What has Sweden done? We might expect that Sweden possessed the most extensively useful Museums, since that country gave birth to the learned and indefatigable Linnæus, whose labours have opened the road, which has shortened the way to a knowledge of nature, and who's fame "had procured him disciples in every part of the world, who vied with each other in sending him all the objects of natural science they could procure, so that his cabinet and his garden were equally enriched. At the same time most of the learned societies in Europe were proud to enrol him among their members, and even kings contended for the possession of him.

* Keyßler's travels vol. 4. p. 99.

He was amply indemnified for declining the generous offers of the Spanish monarch, by the honours and advantages heaped upon him by his own sovereign. He received the rank of nobility, which in Sweden is neither a trifling nor a barren honour, and was made knight of the Polar Star. This was the first instance of that order having been conferred on literary merit; certainly it could never have been bestowed with greater propriety on any one than on Linnæus, who was himself that bright polar star, to which the scientific world looked up for assistance and direction.”*

The University of Upsal has a very ample Museum, which has arisen principally from private donations. It is under the care of professor Thunberg, the worthy successor of the great Linnæus. He has also encreased it by a variety of collections during his voyage in Asia and Africa to the amount of two thousand dollars.

The Royal Academy of Sciences at Stockholm has a Museum, which began with it, and has been constantly improved. Linnæus helped to lay the foundation, and was the first President. It is altogether with the Library and other apparatus of the Academy

* Smith on the progress of natural history, delivered at the opening of the Linnæan Society, London April 8, 1780.

Academy, superintended by the celebrated traveller Doctor Sparrman. A future part of this Museum will be the splendid collection of birds, above eight hundred species, made by the honorable Gustavus Carlson, President of one of the four Supreme Courts of Justice in Sweden, bequeathed by him to the said Academy. This Gentleman, who is a member of the American Philosophical Society, has favored it with the three first volumes in folio of his *Museum Carlsonianum*, containing elegant coloured plates, and neat descriptions of the most remarkable among these birds.

The national Museum at Paris was founded by Lewis the fourteenth. It now promises to be the best school of natural science in the world. No expence has been spared to enrich it with the treasures of nature and art, which they are collecting from every quarter of the globe, displayed in a long train of apartments, to be seen without expence, as ample funds are appropriated for its support. Even amidst their troubles, since the revolution, they have ordained thirteen courses of lectures on the science of nature, and they have employed as professors in the several branches, the most ingenious and learned men in France. Each of these professors deliver about forty lectures in a season,

season, which are so ordered, that pupils may attend each lecture of the thirteen courses.

With such sources of information, it will be wonderful if that nation does not possess the most extensive knowledge in that science.

The elegant pen of Buffon has, no doubt, contributed considerably in giving a taste for this charming science in his country, and which, of late years, is diffused to all the surrounding nations. Although he is so much celebrated, yet, I think it my duty to say, however dazzling and captivating the style of Buffon, such theoretical writers should be read with caution: we ought always to suspect an author, when he suffers his thirst for variety of language to lead him into unjust comparisons of the operations of nature; or to use irreverend expressions of the Creator, when through short-sightedness things appear strange, or unaccountable.

In the course of these lectures, in the description of American animals, some such instances will be illucidated; and although I may not spare his faults, I shall with candour always acknowledge how very serviceable his works have been to me in my studies.

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Relative

Relative to the Spanish Museum, which is said to be the richest in the world, a Spanish gentleman,* has just furnished me with the following account.

“ The magnificent Museum of the court of Madrid had its spring from the industrious efforts of a single individual. A Spaniard of the name of Davila settled in Paris, was conspicuous for his great knowledge in the natural sciences, and for a beautiful cabinet of natural history which he had formed and classified himself after many years labour and expence: Growing old and desirous to retire to his own country again, he proposed to the King to give up to his majesty his museum on condition of being, during his life, the principal director, with a convenient salary. The conditions were accepted, the Museum was transported to Madrid, and the Court turning their attention to this important subject, enjoined the governors and commanders of his vast dominions to forward every curious specimen of the animal, vegetable and mineral kingdoms to be found in their respective provinces.

The punctuality with which those orders have been and are constantly executed, has rendered the
Museum

* Le Chevalier d' Yrujo ministre Plenipotentiaire de S. M. Cath :

Museum of Madrid one of the compleatest and without exaggeration, the most magnificent in Europe. Within a few years, a noble and extensive building has been erecting in the best situation of the city of Madrid, where not only the Museum will be fixed, but the Academy of Sciences, the public schools for Chemistry, Mineralogy, Botany, &c. will have their fittings.

Under the roof of this manificent pile the arts will also fix their residence: and large saloons are appropriated for the academy of the three noble arts, Painting, Sculpture and Architecture.—Contiguous to the building and on a form, showy and ornamental, is a beautiful botanic garden in which the plants of every climate have been assembled.—And on a hill not far distant from it an astronomical observatory has been erected, similar to, though more improved than that of Oxford in England, with the compleatest collection of instruments; among which a telescope of Herschel forty-six feet long will soon be placed."

They have lately placed in it the skeleton of a large non descript animal, found one hundred feet beneath the surface of a sandy soil, in the vicinity of the river la Plata.

This

This skeleton is thirteen feet long and six feet high. The description of its grinders, being flat on the crown and grooved across, corresponds with a grinder in my Museum, which was found in digging the Santee Canal in South Carolina.

The buildings which surround the botanical garden, are so contrived as to promote an artificial heat congenial to plants of most climates.

This Museum is opened for public inspection two days in a week, free of charge,—“there is no need to wait for tickets, but at the appointed hours any person, who is decent in his appearance, is admitted to walk round the rooms, and to examine what he pleases, as long as the doors are open; if he is particularly devoted to one branch of natural history, he is not hurried away from that with the gaping multitude, and compelled to spend the allotted portion of his time in apartments which contain nothing to his purpose.*” However, one great disadvantage attends the too easy access to places of amusement; for this cabinet, on those days of admission, is generally too much crowded. No person is allowed to carry a sword or cane, lest they might break the glasses and injure the articles.

Infinitely

* Townson's travels, vol. 1. p. 284.

Infinitely praise worthy is their complaisance to strangers; when application is made to the directors, they can obtain permission to visit it at other times, and by examining so rich a treasure, they will be amply rewarded for the little trouble they have to obtain this favour.

The Queen of Portugal owns a Museum.—It is an immense magazine of subjects of natural history, which, for want of arrangement, loses much much of its value.

A beautiful collection of butterflies from South America, I am told, is the only part in tolerable order. This Museum may, also, be seen on certain days, free of expence. Was a good classical arrangement made with a part of the Queen's stores, which contain the most precious and wonderful productions crowded together, from her rich dominions in South America.—What a splendid and useful exhibition it would furnish? It might certainly be made to do honour to the city of Lisbon.

The fear of trespassing on your patience, prevents me from taking notice of a number of other public Museums in different parts of Europe; and also, many private collections, of great value.

In

In every country in Europe, gentlemen of taste and fortune, have enjoyed much pleasure, in forming their private Museums.

Some have a fondness for minerals, others for shells. The great variety of insects have captivated the fancy of many others. The smaller birds, and even fishes have also their particular admirers; besides quadrupeds, and marine productions, such as corals, coralines, sea fans and feathers, &c. But botany has perhaps, occupied the attention of the greatest number of individuals. It is by this diffused fondness, joined with much industry, that great collections are made, which are finally swallowed up in some public institution.

I very much suspect that most of them might be improved in their arrangements, and that their usefulness would be more extensive if placed under the care of persons possessing the knowledge of preparing subjects, for good preservation, and who also should have an interest in the promotion of the institution, then such repository of science must become highly useful to the country, so happy as to possess it.

This slight view of some of the Museums on the other side the water, shew in a clear point of light

light the high estimation those countries have of the importance of the study of nature.

In my conversations with people of different nations, I find that laudable pride of wishing that their governments may not be thought deficient in a want of taste, and of giving encouragement to this study. I must say, that I have also desired to screen my country from an obloquy which some strangers, on finding that government does nothing to aid my labours, have said it deserves.

My reply has generally been, that when this country is convinced of the importance of encouraging the study of nature; when the extent of my plan is well understood; and they are convinced that the beginning I have made, may easily be converted into an important school to diffuse useful knowledge, promote virtue, aid piety, and render a people happy;—that, then they will make a suitable provision for it.

Until my works shall proclaim their value to the public,—can I, nay, ought I to expect their favours?—certainly not. But when the public mind shall become fully convinced of its utility, can any one suppose that government will not then provide the means of rendering it permanent?—

To

To suppose otherwise, would be supposing that the influential men of our country, are most deficient in that knowledge which a great number of individuals possess, and from whom I am constantly receiving favours,—daily obtaining presents to the Museum;—ever receiving testimony of their desire to promote its interest.

I stated the facts, in my last introductory discourse, which led to my exertions for promoting the establishment of a Museum.

I shall now endeavour, to point out the best method to render those labours valuable to my country.

First let us suppose we have before us a spacious building, with a suite of rooms of several hundred feet in length, even the length of one of the squares of our city, in which are arranged specimens of all the various animals of this vast continent, and of all other countries;—these in high preservation, under glass to secure them from injury.—Let us suppose them classically arranged, so that the mind may not be confused and distracted in viewing and studying such a multitude of objects.

Whether

Whether we begin at the first or last link of the chain is of little consequence; whether we first view the simple naked animals destitute of limbs, such as worms, and ascend through all the various classes of different organized matter until we reach the most intelligent creature, man;—

Or whether we commence our view from those standing erect, and then descend through all the gradation to such as creep in the dust,—is of little consequence, provided we proceed step by step, to trace the beauties which we shall find that each possesses, in its relative situation to other beings;—its force, its intelligence, and its activity to supply its wants, and protect its young.

It is by this kind of order, we may with ease and pleasure, acquire knowledge from the great book of nature.—Thus reading one leaf at a time, progress to a comprehensive acquaintance with the subjects of every country yet explored,—enjoying the whole world!—An elegant author says, “he who views only the produce of his own country, may be said to inhabit a single world; while those who see and consider the productions of other climes, bring many worlds as it were in review before them.”*

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In

* Smith's tracts relating to natural history, p. 44.

In this manner, while we pass through these rooms, we may see the link that separates our species from the brute creation, in the gentle intelligent Oran Outang, little less than human, only by the want of speech; yet the lack of that, alone, is sufficient to place it far from our species, and nearer to the Monkey tribe.—And in the Flying-squirrel, Ostrich, Cassowary and Batt, connecting links between quadrupeds and birds.—In the amphibious, the division between quadrupeds and fishes, and even the minuter link, in a quadruped I possess with gills. Amongst the animals of the deep, the variety similar to those that inhabit the air and land.

In short, in an extensive collection should be found, the various Inhabitants of every element, not only of the animal, but also specimens of the vegetable tribe,—and all the brilliant and precious stones, down to the common gritt,—all the minerals in their virgin state.—Petrefactions of the human body, of which two instances are known, and through that immense variety which should grace every well stored Museum. Here should be seen no duplicates, and only the varieties of each species, all placed in the most conspicuous point of light, to be seen to advantage, without being handled.

When

When we have imagined that specimens of every kind were placed before us,—in varieties equal to any Museum yet formed, so numerous are the works of creation, that others will still be found in that bounteous store. Wherefore, space should always be left, in every division for the reception of more.

Then in rooms, as appendages to this suite of rooms, should be placed every curious article of dress; arms and utensils of the Aborigines of this, and of other new discovered countries.

Besides a classical catalogue, descriptive of every article belonging to so extensive a Museum, there ought to be also a Library consisting of the writings of the best authors on natural history, from Aristotle and Theophrastus down to the present time.

Can the imagination conceive any thing more interesting than such a Museum?—Or can there be a more agreeable spectacle to an admirer of the divine Wisdom! Where, within a magnificent pile, every art and every science should be taught, by plans, models, pictures, real subjects and lectures. To this central magazine of knowledge, all the learned and ingenious would flock, as well to gain, as to communicate, information.

May every person that hears me, feel as I feel, an enthusiastic desire to establish a similar institution to what I have barely given the outline of, in the city of Philadelphia; and let it like that of Ptolemus Philadelphus at Alexandria, be the first in America.

I see no great difficulty in laying the foundation of such an establishment in this city. The progress I have made in a few years, in forming a Museum, by my sole exertions, almost without funds, is a proof of what may be done in a series of time with moderate means. And since I have subjects, a sufficient number of every class to make a brilliant display in a large building, why not with my labours make a beginning?—Why not employ a few persons of proper talents to bring forward a work of which you and your children will reap the benefit; and may feast on continually, with as much delight as the Elysian fields afforded to the antient philosophers!—Not imaginary but substantially, by opening a perpetual stream of useful knowledge; a stream flowing from every quarter of the world! where you might sweetly sip, digest, and still desire more!—If we lay a good foundation for an extensive and permanent Museum, every seaman returning home, will add his mite; our travellers,

travellers, while exploring the western regions, interested in its progress, would collect for its increase; and our merchants and their friends in foreign countries would shew their zeal to encrease our store.

Why should this be delayed till you my hearers and myself are no more.—Let it not be! We have the resources;—or may obtain them by some exertions. We have the ground, and the building may be spacious without great expence, for, internal ornament would be useless: The building would be but a narrow lengthy shell, plain finished within. However, to support it, some funds are absolutely necessary,—perhaps not more than the real value of articles which would be presented to such an Institution.

A few persons well acquainted with the methods of preserving subjects, should be continually employed; one for each department of nature:—For although things that are once well prepared, require no other care than what any attentive person, is able to perform, yet new subjects will be continually increasing from such an inexhaustible store. Gentlemen of talents, should be allowed to deliver lectures in the several branches of natural history; having the articles of nature before them.

But,

But, if the persons who prepare the subjects, are capacitated to deliver lectures, they should be preferred, because they would be the most likely to use those articles with delicacy. Besides, if a profit is to be had from the delivery of lectures, it may be thrown into the salary of such artist.

It will readily be conceived that some person should have the superintendence of the Museum; under whose directions, every addition should be made and the care of every thing rest with him. The support of this officer should arise from the monies paid by the visitors to the Museum: thus giving him an interest in the improvements and in keeping them in good order.

The price of admission should be small, and at stated periods, proportioned to some certain staple, or necessary article of our market. The evil of depreciation of money, is, by this procedure avoided.

The advantages of opening a Museum on these terms are manifest. A small sum paid for admission, would keep out the idle rabble, who, otherwise, by having free ingress, might injure the subjects. Those really desirous of information, would freely pay a trifle, and they would visit it more frequently,

frequently, as in a well organized repository, there would always be found something new, or unnoticed before.

I verily believe, that this Museum, has already diffused much useful knowledge, and, no doubt, by the improvements meditated, in a few years the inhabitants near it will possess a more accurate knowledge than people who cannot have the easy opportunities of seeing it.

One very important effect may be produced,—persons having different sentiments in politicks, being drawn together for the purpose of studying the beauties of nature, while conversing on those agreeable subjects, may find a concordance of sentiments, and most probably from a slight acquaintance, would think better of each other, than while totally estranged. An instance of this is in the memory of many of my hearers. The chiefs of several nations of Indians, who had an hereditary enmity to each other, happened to meet unexpectedly in the Museum in 1796; they regarded each other with considerable emotion, which in some degree subsided when, by their interpreters, they were informed, that each party, ignorant of the intention of the other, had come merely to view the Museum. Never having before met, but
in

in the field of battle, where the recollection of former scenes of bloodshed, only roused the spirit of revenge; no room was left for the feelings of the social man.—Now, for the first time, finding themselves in peace, surrounded by a scene calculated to inspire the most perfect harmony, the first suggestion was,—that as men of the same species they were not enemies by nature; but ought forever to bury the hatchet of war.

After leaving the Museum they formed a treaty so far as their powers extended, and wishing the white people to be witnesses to the sincerity of their intentions, at the request of the Secretary at War, I supplied them with a room.—Sixty-four chiefs of eight or ten nations met; they heard a speech sent by General WASHINGTON, recommending peace.—Their orators, spoke; and they departed friends.

Quarrels in politicks are something like those in matrimony, almost always about trifles; seldom on things of consequence;—each comparing their notes with candour, their differences, are soon settled.

I wish to be understood. The institution of a Museum can have no more to do with the politicks of a country, than with particular religious opinions.

Its basis has a much broader bottom. Facts, and not theories, are the foundation on which the whole superstructure is built. Not on theoretical, speculative things, but on the objects of our sight and feelings;—with the laws which govern them; on real subjects, with their general, or specific characters, economy, or manners;—the production, preservation, and destruction of all material things deduced from facts.

Hence pursuing the proper course of this science, we cannot offend any human laws, either political or religious. And by a knowledge of nature all will be benefited.

We might travel for years to obtain knowledge in natural science, and although we might thus get considerable acquaintance with some things, yet many would be hid from our view, if we had not previously studied them in an orderly, classical, or scientific Museum: as it is here, that a better acquaintance of things generally may be had, and even in a shorter time, than in any other mode. So that the expence of travelling, to acquire this knowledge, especially into foreign countries, may, in a considerable degree, be dispensed with.

A correct

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A correct catalogue of the subjects before us, would be very satisfactory; but a more perfect acquaintance with those things would be obtained by well digested lectures, where the specific description is gone into, with such accounts of them, as may be thought sufficiently interesting.

The sight of some things, which had before caused uneasiness, nay, fright, by a proper investigation, we may learn to look on, to handle, and examine with a considerable degree of pleasure. In short, it is the duty of the Lecturer to shew what we should avoid as dangerous, as well as what we may approach with impunity, and also the particular uses to which they may be applied for the benefit of mankind.

These lectures should not only make us acquainted with the useful properties of all its objects, but since very frequent examples of extraordinary virtues occur, it becomes the Lecturer's duty, occasionally to intersperse in them some moral reflections, because, (according to an old adage,) example is generally more powerful than precept.

In fact, he must be a very superficial observer of nature, who does not see, with what infinite goodness the bountiful hand of Providence, has
given

given powers to all his creatures, to know what is good, and what is hurtful for them; and by attentively observing their manners, we may frequently learn of them, useful lessons. Could it be for any other purpose that the Creator has endowed us with reasoning faculties? which enable us to observe the creatures placed in our power, but that we might compare their conduct with our own? and has also given us freedom of will, to apply it, for our edification, comfort and happiness.

Do not the holy scriptures every where tell us, these are our monitors? I will bring it nearer home, and say, if we consult our own feelings, and then exercise that reason so benevolently bestowed upon us, we must form a proper result. And the comforts immediately, or ultimately flowing therefrom, independent of all other considerations, should arm us with resolution sufficiently strong to induce us, never to do wrong. Otherwise, instead of superior beings, we are really inferior to the reptiles that crawl on the ground.

My friends, if we are not the most cheerful, pious, and happiest creatures that inhabit this globe the fault arises wholly from our want of a proper education, and remember, to that end I give my
mite

mite by beginning the establishment of a MUSEUM.

—————“ Gaze stranger, there!

“ And let thy soften'd heart intensely feel

“ How good, how lovely, nature! when from hence,

“ Departing to the city's crowded streets,

“ Thy sickening eye at every step revolts

“ From scenes of vice and wretchedness; reflect

“ That man creates the evil he endures.”

This Museum is known to contain in good preservation, many of our large, as well as small quadrupeds;—many of the amphibious animals;—the American birds generally, with some Europeans; all in classical arrangement; as, is also a numerous and beautiful collection of insects, even to the minute ones, too small to be seen by the naked eye: these are placed in new invented microscopes; forming a classical continuation in numerical order from the larger kinds. Minerals and shells, &c. properly arranged to advance study,—besides many other articles, the proper appendages of a Museum.

Application has been made to me from Sweden, England, Holland, Germany, France and Italy, for supplies of articles of natural history generally:
some

Some have offered money and others similar articles in exchange. My answer uniformly has been, I am willing to exchange, but never to sell.—And some reciprocal exchanges had taken place,—but war has prevented me from getting, in some instances suitable returns, wherefore can it be wondered that I so pointedly reprobate that curse of mankind? Which besides its other enumerable baneful effects, also deprives us of the sight of such desirable objects;—and dreading the claws of those sea monsters, privateer robbers, I have preferred filling my store boxes with the duplicates of my Museum, which now contain hundreds of preserved subjects in readiness to exchange for such articles as my Museum is in want of, such as I can command with very little further trouble, when Europe returns to her proper senses!

Several plans of important additions to my Museum I have meditated the execution of, year after year,—One of them is, preserving the variety of fishes; the product of our waters, which should form a more interesting part of this repository, than many may suppose; since in New York market alone, as I am creditably informed, by a gentleman who had taken the trouble to count and name them, are forty-two different kinds for the table.

Two years past at New-York, where such variety can be procured with facility, I began this laborious, but interesting task, when it was interrupted by the untimely death of my son Titian;—the assiduous companion of my daily labours!

O D E
ON THE
D E A T H
OF
TITIAN PEALE.



HIS early loss let science mourn,
Responsive with our frequent sighs,—
Sweet flower of genius! that had borne
The fairest fruit beneath the skies!

Young tho' he was, he had a soul
That urg'd to schemes, the greatest scarce had
Yet could its energy control [thought;
The harshest obstacles that danger brought.

Deep thro' the bosom of the land
His eager fancy led the fruitful way;

But

But envious Death's destructive hand
Snatch'd him from honor's just expanding ray.

Ask what his valu'd virtues were?—
Full many a moisten'd eye will mark the truth,
While heart and tongue at once declare,
His was each virtue that could grace a youth.

His early loss let science mourn,
Responsive with our frequent sighs,—
Sweet flower of genius! that had borne
The fairest fruit beneath the skies!



N O T E.

THIS early devoted and much lamented youth, died with the Yellow Fever in New York 1798. It might be excused if the fondness of a parent indulged in the eulogium of his son; yet the testimony of numerous friends and acquaintances confirm his worth.—Just turned of eighteen, with few of the propensities of youth in general, his understanding was as mature, as his genius was extraordinary and active; and the plans which he had commenced, to the prosecution of which his whole soul was devoted, far beyond his years, raised the greatest expectations of his becoming the Linnæus of America. To explore the riches of our North Western Country, was a favorite and confirmed Resolution—that the Museum should be completely stocked with American Subjects, and those of Europe procured by exchange.

Since

But

Since the death of my son, struck more particularly with the uncertainty of human life, I have hastened to prepare a course of lectures, under the impression, that if I gave them their natural and proper turn; that of manifesting by those works the goodness and wisdom of the Creator, in making every being in the best form to ensure its happiness, obtaining its support, with its connection and dependance toward the support of other beings;—In short, to display by visible objects the harmony of the universe.—That having once laid this firm and solid foundation, no one who follows me, however flowery his language, masterly his rhetorick may be; henceforward will chuse to deviate from a system so plain; so morally and religiously beneficial, and yet so demonstrable in its merits to every capacity; not because I have chosen it, but because the world has proved that Linnæus has judiciously adopted it.

Here I think it proper, to take notice that the Philosopher and Naturalist have been viewed, by some people, as irreligious. How this opinion could be conceived I cannot imagine; unless from the conduct of some rash impassioned men, who have assumed those characters, without being possessed of penetration and judgment sufficient to
view

view things on the great scale of universal laws, which support every atom of matter in its proper place; that bind together or support a universe. Those superficial men, catch at some things that appear strange to them, and with a desire of becoming singular, take on themselves the part of censors; they find fault with that order, the depth of which they do not penetrate.

They affect to be learned, which is sufficient to catch the wonder of the vulgar, and thus they obtain the name of Philosopher or Naturalist, without the least title whatever to the character. When in fact, no man is entitled, or deserves the name, whose words and actions do not prove him to be patient under afflictions,—forbearing when injured,—benevolent to all creatures,—promoting harmony among men. And who also admires the works of creation, and through them adores the Creator. If this is not religion, in the name of charity, what is?

My course of lectures is now comprised in forty discourses, which I propose to deliver this season at my Museum. And in order that too great a number of objects may not distract the attention of those who will honour me with their presence, I shall select from the other articles of the Museum,

those which are the subjects of each Lecture, and dispose them, while described, in the most favorable light to be seen.

As I have endeavoured to shew how important it is for the fair sex to possess this knowledge of nature it would be unpardonable to deliver such Lectures as might offend the most delicate Ear.— Therefore I have prepared them expressly for the Ladies as well as Gentlemen.

As I am the first in America who has made the attempt to deliver lectures particularly on the animal department of Natural History, with preserved subjects, it is hoped the public will regard it with an indulgent ear, and give the encouragement necessary to induce a continuation of this Infant School, which hereafter may be filled by Professors of Talents, better qualified to do the subject Justice.

ENTERED ACCORDING TO LAW.

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THE BEAUTIES

the Words by REMBRANDT PEALE

Musical notation for the first system, featuring treble and bass staves with a key signature of one sharp (F#) and a 2/4 time signature. The tempo is marked "Moderato". Dynamics include "f" (forte) and "p" (piano).

harmo-ny that reigns! Each sup-ported in its station, Age to age

life in every mode, Foodful plants & herbs abounding, Fossils in

heaven, Hark! the war - - -

Deck'd in plumage richly given, All their souls at-tund to Love

use and pleasure, Each at-tend the bestial train, Seas pour forth

IES OF CREATION

set to Music by JOHN J. HAWKINS Nov^r 1800
Duetto

f *p*

Mark the beauties of creation, Mark the

to age unchang'd re-mains. Water, Earth and Air sur-rounding, Teem with

Fossils in their dark abode. Flitting thro' the yielding

blers of the grove!

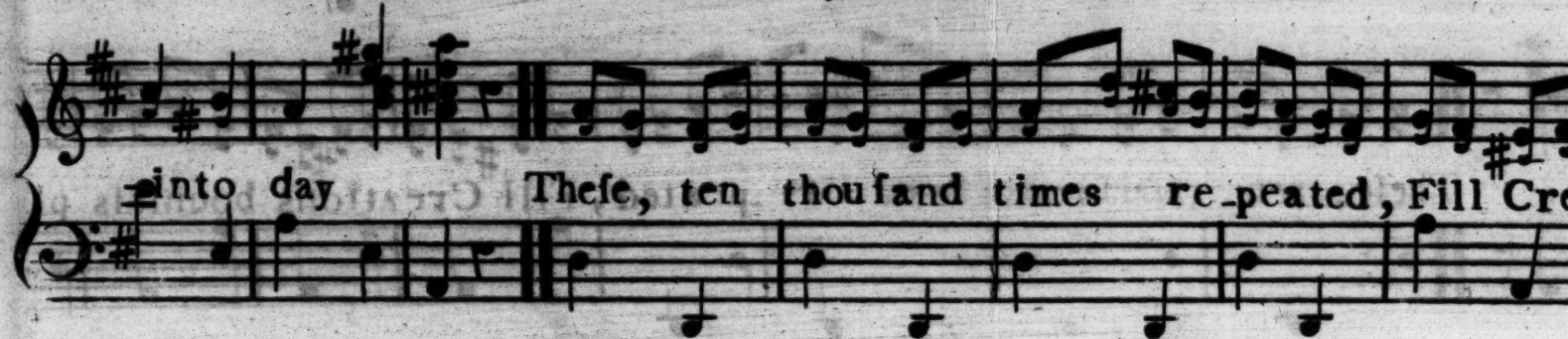
d to Love. Food and raiment,

our forth their finny treasure, Earth its fruits and plentiful grain.



Flut - tring gay from flow'r to flower See the vi -

This system contains the first two staves of music. The treble staff has a key signature of one sharp (F#) and a common time signature. The melody is a continuous eighth-note run. The bass staff has a key signature of one sharp (F#) and a common time signature. The melody is a continuous eighth-note run.



into day These, ten thousand times re-peated, Fill Cro

This system contains the third and fourth staves of music. The treble staff has a key signature of one sharp (F#) and a common time signature. The melody is a continuous eighth-note run. The bass staff has a key signature of one sharp (F#) and a common time signature. The melody is a continuous eighth-note run.



place, as man. Let us then, the whole fur-vey

This system contains the fifth and sixth staves of music. The treble staff has a key signature of one sharp (F#) and a common time signature. The melody is a continuous eighth-note run. The bass staff has a key signature of one sharp (F#) and a common time signature. The melody is a continuous eighth-note run.



eying, Live in blifs, live in blifs & blifs im-part live in blifs

This system contains the seventh and eighth staves of music. The treble staff has a key signature of one sharp (F#) and a common time signature. The melody is a continuous eighth-note run. The bass staff has a key signature of one sharp (F#) and a common time signature. The melody is a continuous eighth-note run.

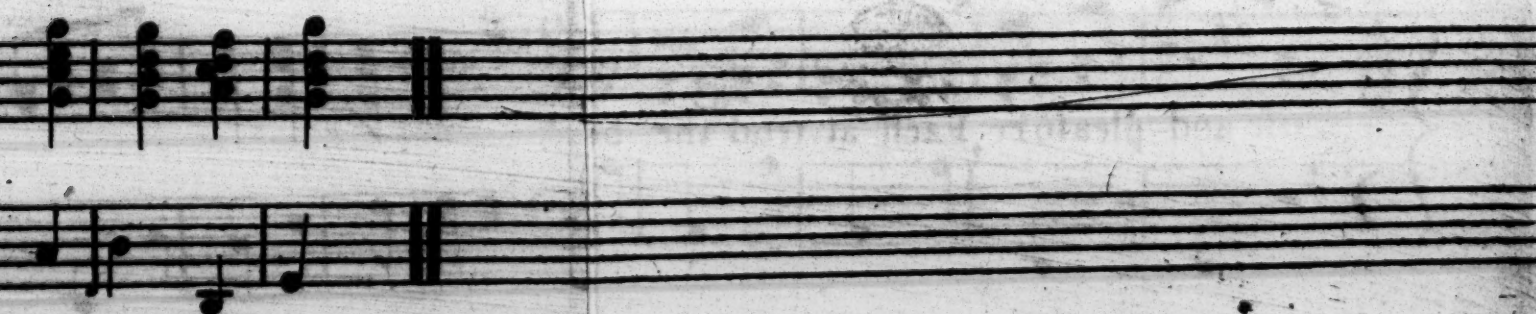
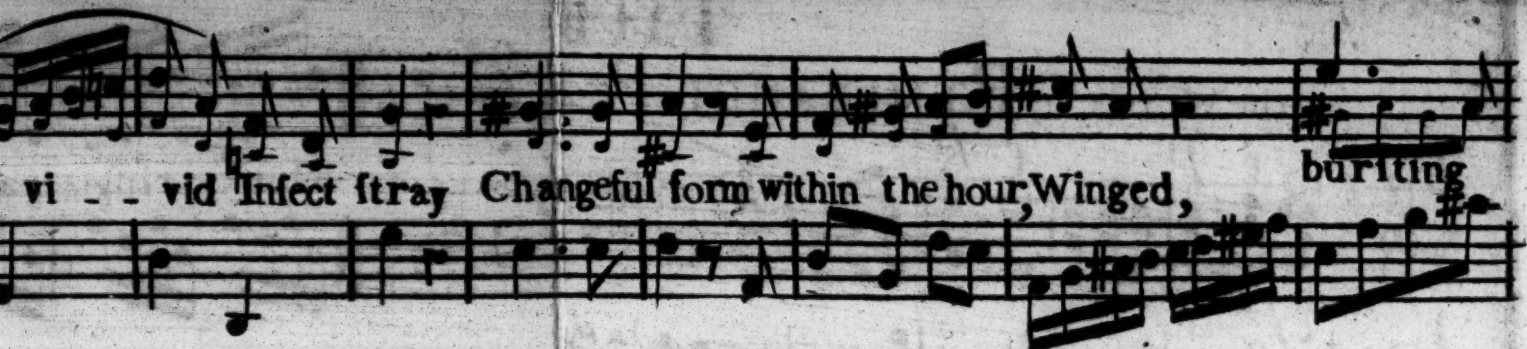


Live in blifs live in blifs & blifs im-part live in blifs

This system contains the ninth and tenth staves of music. The treble staff has a key signature of one sharp (F#) and a common time signature. The melody is a continuous eighth-note run. The bass staff has a key signature of one sharp (F#) and a common time signature. The melody is a continuous eighth-note run.



This system contains the eleventh and twelfth staves of music. The treble staff has a key signature of one sharp (F#) and a common time signature. The melody is a continuous eighth-note run. The bass staff has a key signature of one sharp (F#) and a common time signature. The melody is a continuous eighth-note run.



DIRG

Words by REMBRANDT PEALE

Grave

The musical score is written for a dirge, marked "Grave". It consists of four systems of staves. Each system has a treble and bass staff joined by a brace. The key signature is one sharp (F#) and the time signature is common time (C). The lyrics are written below the staves.

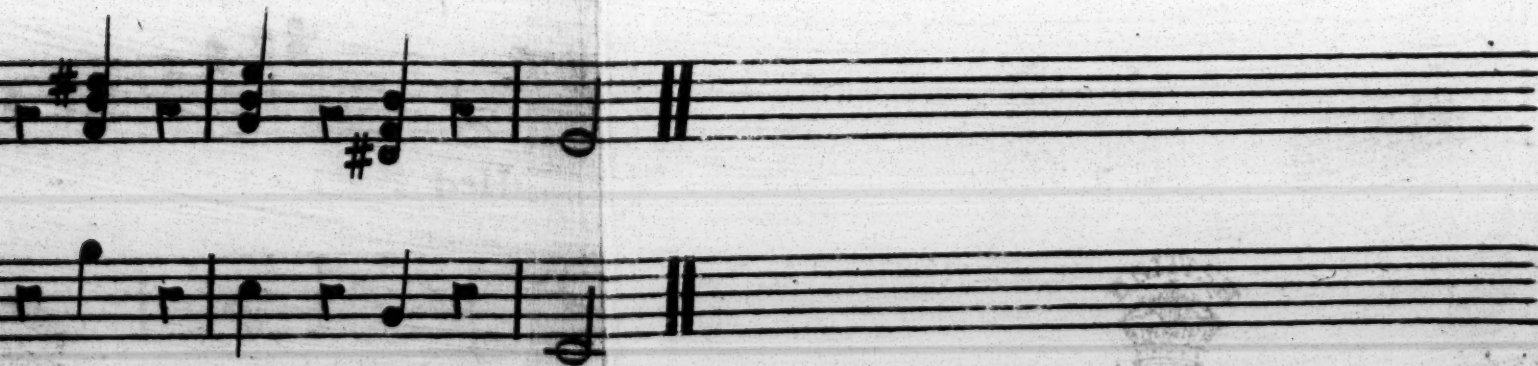
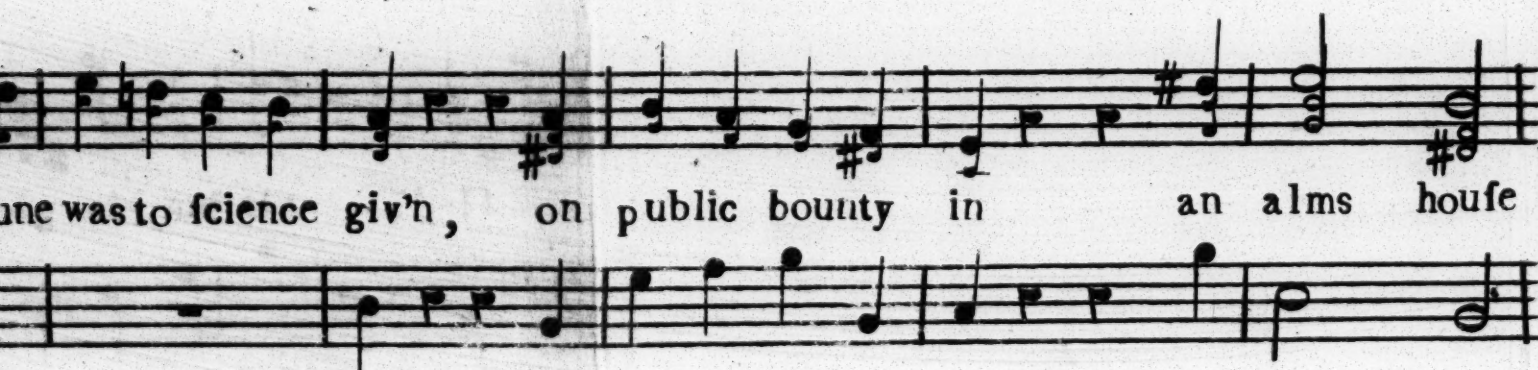
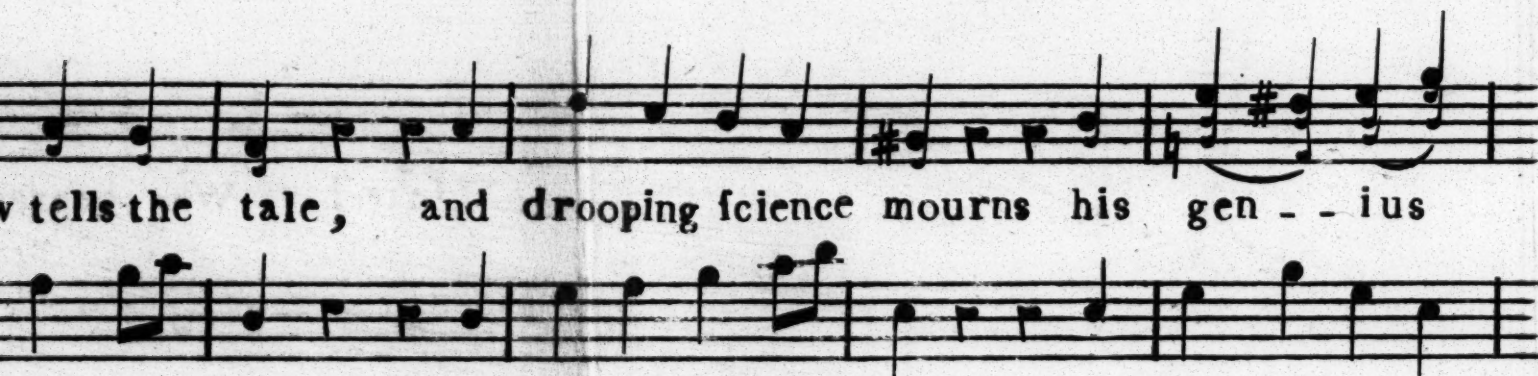
late? Why heaves the swelling breast, when sorrow tells the

fled, All but his glory in the grave? he whose fortune was to

died!

RGE

set to Music by JOHN J. HAWKINS Novr 1800



ODE ON THE DEATH

by REMBRANDT PEALE

Flute

Musical notation for the Flute and Piano. The Flute part is on a single staff with a treble clef and a 2/4 time signature. The Piano part consists of two staves (treble and bass clefs) with a 2/4 time signature. The tempo and dynamics are marked 'Larghetto e Piano'.

Larghetto e Piano

Musical notation for the Flute and Piano. The Flute part is on a single staff with a treble clef. The Piano part consists of two staves (treble and bass clefs). The tempo and dynamics are marked 'Larghetto e Piano'. The lyrics are: 'pon-five to our frequent frequent sighs'.

pon-five to our frequent frequent sighs

Musical notation for the Flute and Piano. The Flute part is on a single staff with a treble clef. The Piano part consists of two staves (treble and bass clefs). The tempo and dynamics are marked 'Larghetto e Piano'. The lyrics are: 'skies! his ear-ly loss let Science mourn, Respon-five'.

skies! his ear-ly loss let Science mourn, Respon-five

Musical notation for the Flute and Piano. The Flute part is on a single staff with a treble clef. The Piano part consists of two staves (treble and bass clefs). The tempo and dynamics are marked 'Maestoso poco Allegro'. The lyrics are: 'Young tho' he was he had a Soul that urg'd to scheme the greatest scarce had'.

Maestoso poco Allegro

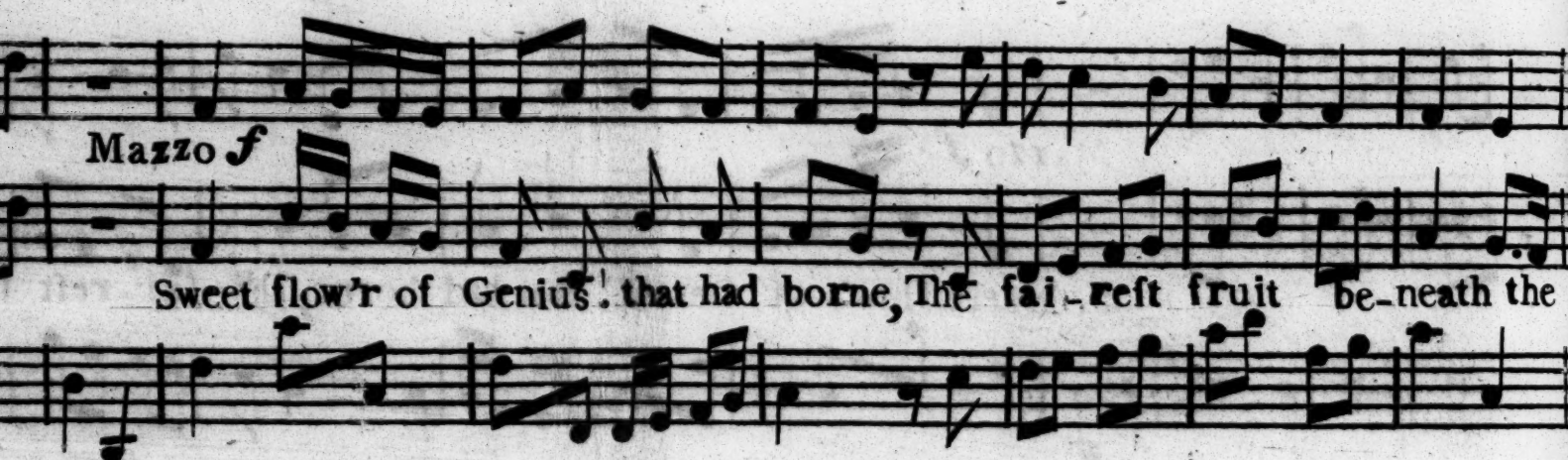
Young tho' he was he had a Soul that urg'd to scheme the greatest scarce had

TH OF TITIAN PEALE

set to Music by JOHN J. HAWKINS 1800



His ear-ly loss let Science mourn, Res-pon-sive ref-



Mazzo *f*
Sweet flow'r of Genius! that had borne, The fai-rest fruit be-neath the



on-five respon-sive to our frequent frequent sighs Fine



arce had thought, Yet could its energy control The harshest ob-stacles that

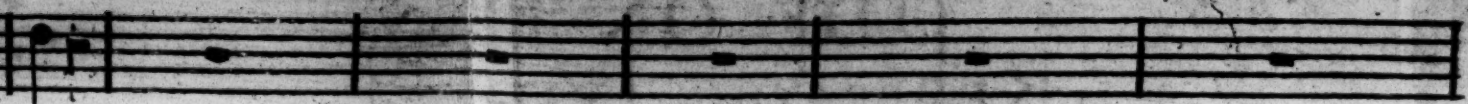
dan-ger brought. Deep

Andante *ff* Affet?

way ; But en-vious death's def-structive hand Snatch'd him from ho-n-

Ask what his va-lued virtues were? Full many' a moisten'd eye will mark t'

Virtue that could grace a youth.



Deep thro' the bo- som of the land His es- ger fan- cy led the fruitful



rom ho- nor's just ex- panding ray.



ll mark the truth, While heart & tongue at once de- clare, his was each

